

REMARKS

Claims 1-14, 19-29, 31, 32, 34, 35, 40-46, 48 and 51-54 are pending in the application prior to entry of amendments submitted herewith. It is noted that the Office Action Summary page of the October 17, 2008 Office Action does not list Claim 52 as a pending claim, which is believed to be in error, because Claim 52 has not been cancelled. By amendment herewith, Claims 1, 3, 6, 12, 13, 19, 25, 45, 45 and 54 are being changed. None of the amendments introduce new matter, and all of the amendments are made without prejudice to or disclaimer or dedication of any subject matter, and a right is specifically reserved to file continuation and/or divisional applications claiming any subject matter disclosed in the application.

Appreciation is expressed to the Examiner for the telephone interview held on December 10, 2008. Present were Patent Examiner Colin W. Slifka, Supervisory Patent Examiner Melvin Curtis Mayes, and the undersigned. A possible amendment of Claim 1 was discussed to provide a sharper focus on the selective nature of the remedial treatment and the relationship between the surveying and selecting portions of the heap for the remedial treatment that are identified, based on the surveying, as being deficient in extraction of a target component in that the extraction is low in comparison to average extraction of the component from the heap. No agreement was reached. Examiner Slifka and Supervisory Examiner Mayes indicated that such an amendment of Claim 1 would appear to distinguish over the references cited for the obviousness rejections, but that additional prior art searching might be required in relation to the amended claim scope.

Independent Claim 1 is directed to a method for extracting a component from a heap, in which there is a selective remedial treatment of a heap that has already been subjected to component extraction by heap leaching. Through surveying, portions of the heap are identified that are deficient in extraction of the component following the prior heap leaching, in that component extraction from the identified portions of the heap is low in comparison to average extraction of the component from the heap. The selective remedial treatment requires that, based on the surveying, at least one such portion identified as deficient in extraction is selected for remedial treatment, and that each such selected portion of the heap is remedially treated through a well excavated into that portion of the heap. In relation to the amendments made to Claim 1,

reference is made to discussions in the application specification concerning the selective nature of the remedial treatment and the relationship between the surveying and the remedial treatment, for example, at page 2, lines 2-16; page 4, lines 28-33; page 5, line 27 through page 6, line 3; page 15, lines 21-30 and page 16, lines 25-30.

Each of the particular items raised in the Office Action is addressed in more particularly below.

#### Objections To The Specification

The Examiner objected to “Paragraph 34” for including the text “fracture propagation 306”. The paragraph in the specification commencing on page 12, line 21 has been amended to replace the objected-to text with “fracture propagation 304” obviating the objection.

The Examiner also objected to the word “unbleached” citing to “paragraph 3, line 10”, apparently referring the paragraph numbered [0003] in corresponding U.S. Patent Publication No. 2007/0186724. The word “unbleached” does appear in the paragraph numbered [0003] in the electronic text version of 2007/0186724 on the USPTO’s full text database. However, the word “unbleached” does not appear in either the corresponding portion of the application specification or in the paragraph numbered [0003] in U.S. Patent Publication No. 2007/0186724, indicating that the appearance of the word “unbleached” in the USPTO’s full text database is in error. Therefore there are no corrections be made to the application specification with respect to this item, and it is respectfully requested that the objection be withdrawn.

#### Objections To The Claims

Claim 6 was objected to for omission of the word “of” from the preamble. Claim 6 has been amended in a manner to obviate the objection.

Claim 45 was objected to in relation to a misspelling of “phosphorus” as “phosporus”. Claim 45 has been amended in a manner to obviate the objection.

Claim 52 was objected to based on an allegation of being in improper dependent form for failing to further limit the subject matter of the previous claim. In particular, the Examiner asserted:

The step of performing the heap leaching prior to “the remedially treating” does not further limit claim 1 because the scope of claim 1 requires that the heap leaching be done first in order to be able to identify the areas of the heap in need of remedial treatment.

The objection is, respectfully, disagreed with. A distinction between Claim 1 and Claim 52 is that Claim 1 requires that the surveying be performed “after the heap has been subjected to heap leaching for some period of time”. The quoted phrase does not require that the heap leaching is performed as part of the method recited in Claim 1, but rather states a property of the heap at the time of the surveying, i.e., that the heap is in the state of having already been subjected to heap leaching at the time the surveying is conducted. There is no requirement in Claim 1 of performing the heap leaching as part of the method of Claim 1. In contrast, Claim 52 positively requires performing the heap leaching as part of the recited method of that claim. Therefore, Claim 52 further limits the subject matter of Claim 1, and it is respectfully requested that the objection to Claim 52 should be withdrawn.

Claim Rejections Under 35 U.S.C. § 112

Claims 3, 12, 13, 53 and 54 were rejected under 35 U.S.C. § 112, second paragraph, based on an assertion of being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejections are traversed.

With respect specifically to Claim 3, the Examiner asserted that the word “completed” is vague and does not clearly correlate with the specification. Although the Examiner’s assertion with respect to the word “completed” is not agreed with, Claim 3 has nevertheless been amended to remove the word “completed”, obviating the rejection. Claim 6 has also been consistently amended.

With respect specifically to Claims 12, 13, 53 and 54, the Examiner raised an issue with respect to the phrase “the heap leaching” as used in those claims in relation to the “heap leaching” recited in Claim 1. The Examiner’s position appears to be that the “heap leaching” recited in Claim 1, to which the heap had been subjected to prior to the surveying, could not also

be performed during the surveying or other steps recited in Claim 1. The undersigned is not aware of any requirement that steps in a process may not be performed in a manner that they temporally overlap or are performed simultaneously. Nevertheless, Claims 12, 13, 53 and 54 have been amended to obviate the rejection, and it is respectfully requested that the rejection be withdrawn.

Claim Rejections Under 35 U.S.C. §103

The Examiner has made several rejections under 35 U.S.C. §103(a). In particular, the Examiner has rejected Claims 1, 2, 3 and 8 as being unpatentable over Hannifan et al. (US 3,441,316); Claims 4-7, 9, 13, 19-24, 31, 32, 34, 40, 41, 51, 52, 53 and 54 as being unpatentable over Hannifan et al. further in view of Spedden et al. (US 3,815,957); Claims 10-12 as being unpatentable over Hannifan et al. and Spedden et al., and further in view of Johnson et al. (US 4,381,873); Claims 14, 35, 42 and 44-46 as being unpatentable over Hannifan et al. and Spedden et al., and further in view of Young et al. (US 6,471,743); Claims 25-27, 29 and 43 as being unpatentable over Hannifan et al. and Spedden et al., and further in view of Lesty et al. (US 4,756,887); Claim 28 as being unpatentable over Hannifan et al., Spedden et al. and Lesty et al., and further in view of Milsom (Field Geophysics 3<sup>rd</sup> Edition); and Claim 48 as being unpatentable over Hannifan et al. and Spedden et al., and further in view of Jones (US 5,223,024). The rejections are traversed.

As summarized above, independent Claim 1 recites a method for extracting the component from a heap of material, and requires selective remedial treatment of at least one portion of the heap after the heap has already been subjected to heap leaching of the component. Such portion of the heap is identified, through surveying of the heap, to be deficient in extraction of the component in that the extraction of the component is low in comparison to average extraction of the component of the heap. Importantly, the selective remedial treatment is performed through wells specifically targeted to selected portions of the heap identified from the surveying as being deficient in component extraction relative to average extraction from the heap. This selective remedial treatment is distinguished from non-selective, whole-heap treatments in which a number of wells are drilled into a heap in a grid pattern designed to treat

the entire heap.

Several of the references cited for the obviousness rejections disclose the use of wells drilled into an in-situ mineral formation, or into a deposited heap or dump of mineral material. The disclosures in those references, however, do not concern use of wells for selective remedial treatment of portions of the heap identified as being deficient, following prior heap leaching, in compound extraction of the component in that extraction is low in comparison to average extraction of the component from the heap, in a process as recited in Claim 1.

For example, Hannifan et al., the primary reference cited by the Examiner, disclose leaching of waste dumps and in situ deposits by introducing leach liquor through a number of wells drilled into the waste dump or in situ deposit. Hannifan et al. at column 1, lines 12-17. The process disclosed by Hannifan et al. is non-selective. For example, Hannifan et al. disclose the use of a grid of wells varied between 150-foot grid spacing and 25-foot grid spacing. Hannifan et al., column 4, lines 2-4. Hannifan et al. did not disclose selective remedial treatment through wells targeted to selected portions of the heap identified as being deficient in component extraction based on surveying the heap, in a process as recited in Claim 1.

Likewise, none of the other references cited by the Examiner disclose such selective heap treatment in a process as recited in Claim 1. Spedden et al., Johnson et al. and Lesty et al. all disclose the use of wells in relation to different processes for recovering a component from an in-situ mineral formation, or a heap or dump of material, with Spedden et al. and Johnson et al. disclosing hydraulic fracturing through wells. However, none of those references disclose selective remedial treatment of a heap based on surveying the heap in a process as recited in Claim 1. Milsom concerns geophysics and does not concern extraction of a component from a heap. Jones and Young et al. disclose processes involving leaching of a component, but do not disclose the use of wells in a heap, let alone in a process involving selective remedial treatment with the features as recited in Claim 1.

It is respectfully requested that the rejections under 35 U.S.C. §103(a) should be withdrawn.

It is believed that all of the issues raised in the Office Action have been addressed herein. Should the Examiner maintain any of the rejections of any of the pending claims, it is

respectfully requested that it be pointed out with particularity how the cited reference(s) meet each and every term of each claim with respect to which rejection is maintained. In the absence of a persuasive showing to that effect, all pending claims should be allowed.

The application is believed to be in condition for allowance and allowance of all pending claims is earnestly requested. If the Examiner believes that it would be helpful to discuss any of the amendments or remarks presented, or to discuss possible Examiner amendments, the Examiner is respectfully invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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